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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,553

09/30/2006

Ian O'Connell

791305-1010

1710

24504 7590 07/30/2010
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EXAMINER

HOWARD, RYAN D

ART UNIT

PAPER NUMBER

2878

MAIL DATE

DELIVERY MODE

07/30/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,553	Applicant(s) O'CONNELL ET AL.	
	Examiner RYAN HOWARD	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-7,10,13,16-18 and 51-57 and 61-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7,10,13,16-18 and 51-57 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 61-63 is/are rejected.
- 7) ☐ Claim(s) 64-66 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Acknowledgement made of amendment filed 4/28/2010.
2. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claim 60 should be renumbered 59, and subsequent claims should be renumber appropriately.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maass (US 5,865,519) in view of Green et al. (US 4,927,238) and further in view of Beaver (US 5,685,625) and further in view of Spears (US 4,019,656).

Regarding claim 1, Maass teaches a projector (12, figure 2); and an at least partially transparent screen (20, figure 2);

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The screen inclined at an angle with respect to the plane of emission of light from the projector (see 20 and 12, figure 2) and the screen having a front surface arranged such that light emitted from the projector is reflected therefrom (column 3 lines 64-67); and

The projector being arranged to project an image such that light forming the image impinges upon the screen such that a virtual image is created from light reflected from the screen, the virtual image appearing to be located behind the screen (column 3 lines 64-67), wherein the screen is a foil (column 3 line 64).

Maass does not teach a frame, and a light source; the frame being arranged to retain the screen under tension, such that the tension of the screen can be varied at a plurality of positions along at least one edge of said screen; The light source arranged to illuminate at least part of the apparatus; and the frame comprises first and second retention members arranged to sandwich an edge region of the screen therebetween and at least one of the first and second retention members comprises an abrasive coating arranged to contact the screen, and wherein a first and second retention members are connected to one or more flexible tensioning means, which extend from the frame, the foil, flexible tensioning means and the frame lying in a common inclined plane, with the tension on the foil being applied in the plane of the flexible tensioning means and the foil.

Green teaches a frame (104, figure 5) being arranged to retain the screen under tension, such that the tension of the screen can be varied at a plurality of positions (107, figure 5) along at least one edge of said screen, and the frame comprises first and

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second retention members arranged to sandwich an edge region of the screen therebetween (105, 132, 110 and 130, figure 5), and a first and second retention members (105, 132, 110 and 130, figure 5) which are connected to one or more flexible tensioning means (142, figure 5), which extend from the frame, the foil flexible tensioning means and the frame lying in a common inclined plane (see figure 5), with the tension on the foil being applied in the plane of the flexible tensioning means and the foil (142 are springs which apply tension axially; column 5 lines 19-21).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the projection system of Maass to include the retention system of Green because the retention system of Green reduces wrinkles in the screen, improving image quality.

Maass in view of Green does not teach a light source arranged to illuminate at least part of the apparatus and one of the first and second retention members comprising an abrasive coating arranged to contact the screen.

Beaver teaches a light source arranged to illuminate at least part of the apparatus (30, figure 4).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the projection system of Maass in view of Green to include the light of Beaver because the light source of Beaver improves the visibility of the optical illusion.

Maass in view of Green in view of Beaver does not teach the first or second retention member comprising an abrasive coating arranged to contact the screen.

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Spears teaches a first and second retention members comprising an abrasive coating arranged to contact an object being clamped (column 2 lines 30-32).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the retention system of Maass in view of Green in view of Beaver to include the abrasive coating of Spears because the abrasive pad improves the grip of the retention members.

Regarding claim 2, Spears teaches the abrasive coating is sandpaper (column 2 lines 30-32).

Regarding claim 5, Green teaches the first and second retention members comprise respective openings therehrough (132A-E and 130A-E, figure 5) arranged to collocate with respective openings in the screen (114, figure 5) wherein the openings are arranged to receive a fixing means so as to clamp the screen between the first and second retention members (column 5 lines 15-26).

Regarding claim 6, Green teaches the frame is arranged to retain the screen under tension such that the tension of the screen can be varied at plurality of positions along at least one edge of the screen such that the screen is substantially wrinkle free (column 5 lines 19-21).

5. Claims 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maass (US 5,865,519) in view of Green et al. (US 4,927,238).

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Regarding claim 61, Maass teaches a projector (12, figure 2); fixed mounting points (top and bottom (24, 22, figure 1); and an at least partially transparent screen which is a foil (20, figure 2);

The fixed mounting points being arranged to retain the screen under tension (column 3 lines 58-61), such that the screen is inclined at an angle with respect to a plane of emission of light from the projector (see 20 and 12, figure 2) and

the screen having a front surface arranged such that light emitted from the projector is reflected therefrom (column 3 lines 64-67); and

The projector being arranged to project an image such that light forming the image impinges upon the screen such that a virtual image is created from light reflected from the screen, the virtual image appearing to be located behind the screen (column 3 lines 64-67), wherein the screen is a foil (column 3 line 64).

Maass does not teach a frame, and the frame comprises first and second retention members arranged to sandwich an edge region of the screen therebetween, and wherein a first and second retention members are connected to one or more flexible tensioning means, which extend from the frame, the foil, flexible tensioning means and the frame lying in a common inclined plane, with the tension on the foil being applied in the plane of the flexible tensioning means and the foil; and wherein a plurality of fixing means pass through the first retention member and through the screen and clamp the screen between the first and second retention members and optionally locking means is provided adapted to lock the fixing means.

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Green teaches a frame (104, figure 5), and the frame comprises first and second retention members arranged to sandwich an edge region of the screen therebetween (105, 132, 110 and 130, figure 5), and a first and second retention members (105, 132, 110 and 130, figure 5) which are connected to one or more flexible tensioning means (142, figure 5), which extend from the frame, the foil, flexible tensioning means and the frame lying in a common inclined plane (see figure 5), with the tension on the foil being applied in the plane of the flexible tensioning means and the foil (142 are springs which apply tension axially; column 5 lines 19-21), and wherein a plurality of fixing means pass through the first retention member and through the screen and clamp the screen between the first and second retention members (132A-E, 130A-E, and 114, figure 5).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the projection system of Maass to include the retention system of Green because the retention system of Green reduces wrinkles in the screen, improving image quality.

Regarding claim 62, Maass teaches the screen comprises a partially reflective layer upon the front surface (column 4 lines 24-26).

Regarding claim 63, Green teaches the screen is attached to the frame at the screens upper and lower edge (104, 107, figure 5).

Response to Arguments

6. Applicant's arguments with respect to claims 1 and 61 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

7. Claims 7, 10, 13, 16-18, and 51-57 allowed.
8. Claims 64-66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claims 7, 51 and 64, Prior art does not teach a screen tensioned by tension straps. The closest Prior art to the claimed tension straps is Yang (US 6,129,649) which teaches tension straps, however these are used to secure a trampoline to a frame and this is not considered analogous to the art of semi-transparent projection screens.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RYAN HOWARD whose telephone number is (571)270-5358. The examiner can normally be reached on Monday-Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGIA EPPS can be reached on (571)272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RYAN HOWARD/
Examiner, Art Unit 2878
7/28/2010

/Georgia Y Epps/
Supervisory Patent Examiner, Art
Unit 2878